

METHOD AND APPARATUS FOR AUTOMATIC VOLUME CONTROL IN AN AUDIO SYSTEM

Abstract of the Disclosure

5 An audio system (100) is provided with improved adaptive filter (206) to
automatically adjust signal gain depending on the ambient noise level. The original
music signal passes through a normalized adaptive filter (206), and is subtracted from
the ambient room signal detected by a microphone (120), resulting in an error signal
that is an estimate of the ambient noise. The error signal is used to update a set of
adaptation coefficients so that the normalized adaptive filter more accurately
10 simulates the room transfer function, resulting in an better estimate of the ambient
noise. The audio system (100) is calibrated automatically upon initial use to
determine adaptation coefficients and noise threshold level to prevent runaway gain.
System parameters are adjusted using a controller (124) with a user-friendly
15 interface (400).

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